

Mosquito and Tick Control

MOSQUITO AND TICK CONTROL PROGRAM is designed to control mosquitoes which may transmit disease. Special efforts are made to have potential breeding sites such as abandoned tires removed or larvicided. On-going surveillance of the mosquito population is conducted. Adulticiding (spraying/fogging) is conducted based upon surveillance.

Citizens should take precautions to minimize mosquito breeding and biting. Window and door screens should be inspected and repaired. Mosquitoes which enter homes should be promptly killed. Water holding containers such as tires, buckets, toys, and birdbaths should be emptied weekly or properly disposed of. Rain gutters and down spouts should be cleaned. The careful use of insect repellants and insecticides is recommended.

MOSQUITOES:

Aedes albopictus is commonly known as the Asian Tiger Mosquito. (It is a small black and white mosquito that frequently breeds in tires located in sunny locations. It is a very aggressive day biting mosquito. The Asian Tiger Mosquito is thought to have come from Japan in the form of eggs inside of used tires. In laboratory studies, this mosquito has been found to be capable of transmitting LaCrosse encephalitis and Dengue.)

Ochlerotatus triseriatus (Formerly *Aedes triseriatus*.) is commonly known as the Treehole Mosquito. (It frequently breeds in tires located in wooded locations. It can transmit LaCrosse encephalitis.)

Ochlerotatus trivittatus (Formerly *Aedes trivittatus*.) is commonly known as a Woodland Floodwater Mosquito. (This mosquito breeds in temporary woodland pools. It is seasonally very numerous and is very aggressive.)

Aedes vexans is commonly known as the common Floodwater Mosquito. (This mosquito breeds in sunlit temporary pools. It is seasonally very numerous and is very aggressive.)

PROGRAM INFORMATION

Program Hours:

Citizens may register mosquito related complaints at **645-2483** during the months of **May through August** of each year.

Service Site:

Columbus Health Dept.
240 Parsons Ave.,
Columbus, OH 43215

Phone Number:

614-645-2483

The Vector Specialist is
Robert Snider, **645-7154**.
The Program Manager is Dale
Harmon, **645-7156**.

Anopheles quadrimaculatus is commonly known as the Malarial Mosquito. (It usually breeds in permanent water swamps [wetlands] but will also breed in abandoned swimming pools. It is an active biter.)

Culex pipiens is commonly known as the Northern House Mosquito. (This brown mosquito breeds in very foul water. Particularly water contaminated with sewage. It primarily feeds on birds. It can transmit St. Louis encephalitis and West Nile virus.)

Psorophora ciliata is sometimes known as the Gallinipper (This is our largest mosquito. It breeds in floodwater pools. Its larvae are predacious and feed on other insects including other mosquito larvae. The adults are very aggressive.)

Mosquito Borne Diseases in Central Ohio

There are about 57 different kinds (species) of mosquitoes in Ohio. Mosquitoes are a very specialized type of biting fly. Like flies they have just one pair of wings. Flies and mosquitoes go through what is known as **complete metamorphosis**. A baby mosquito is a worm that looks nothing like an adult mosquito. The young (larvae) live in standing water; they are the "wigglers".

In Ohio mosquitoes are important in transmitting viral encephalitis to humans and other animals. Worldwide there are more than 250 named arboviruses (arthropod-borne viruses). In Columbus the Treehole Mosquito and possibly the Asian Tiger Mosquito can transmit LaCrosse Encephalitis while the Northern House Mosquito can carry St. Louis encephalitis and West Nile virus.

Saint Louis Encephalitis – St. Louis encephalitis (SLE) causes aseptic meningitis and encephalitis. The initial symptoms include: Headache, drowsiness, fever, vomiting, and a stiff neck. Tremors, mental confusion, convulsions, and coma may follow. Treatment is supportive, there is no cure. SLE occurs in epidemics. The last epidemic in central Ohio occurred in 1975 during which 142 people became ill and eleven of those died. No cases of SLE have occurred in Columbus since 1979.

West Nile Virus - West Nile virus (WNV) is a mosquito borne disease which is primarily a disease of birds and the mosquitoes which feed on them. The

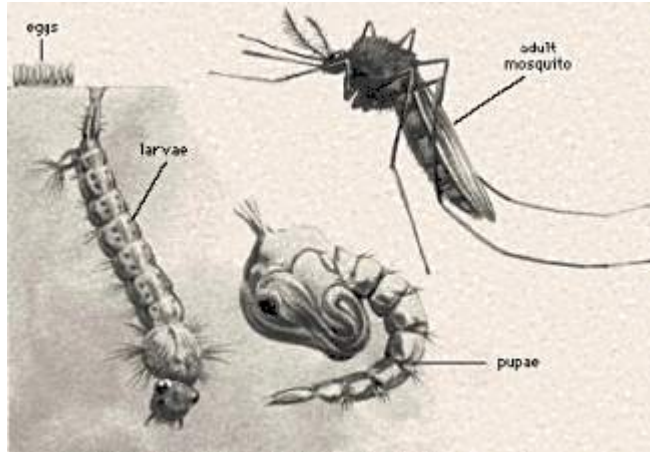
common "Northern House Mosquito," *Culex pipens*, is the primary vector. West Nile virus is frequently fatal to crows and blue jays. In humans, West Nile is typically a mild illness. Most healthy humans either do not become sick or experience only a mild case of the "summer flu." However, elderly and immune compromised individuals can experience a life threatening illness. In Queens, New York, a human serosurvey conducted October 2nd to October 6th 1999, found that approximately 1256 people in the survey area had been infected during 1999 and that about 239 of these infected people had a mild clinical illness associated with their infection.

Severe cases of West Nile virus (WNV) can cause a febrile, influenza-like illness with abrupt onset. The symptoms can include:

- Moderate to high fever
- Headache, sore throat, backache, myalgia, arthralgia, fatigue
- Rash, lymphadenopathy
- Acute aseptic meningitis or encephalitis
- Most fatal cases are in people >50 years old.

West Nile virus reached central Ohio in the summer of 2001. According to the Ohio Department of Health, there were eight human cases of West Nile virus in Franklin Count in 2002. Five of these were from Columbus.

Northern House Mosquito - This is the mosquito which can transmit SLE and WNV. The House Mosquito is a plain brown mosquito which lives and breeds in the vicinity of houses. It breeds in very foul water normally associated with containers located in direct sunlit locations, such containers include: bird baths, rain gutters, old tires, and buckets. Sewage contaminated ditches can breed huge numbers of these mosquitoes. The House Mosquito prefers to feed upon birds, especially unfledged babies, but by the middle of summer, when the young birds have left their nests, the female House Mosquitoes will readily feed on humans.



LaCrosse Encephalitis - LaCrosse Encephalitis (LAC) is usually a milder disease than Saint Louis Encephalitis (SLE). It also causes aseptic meningitis and encephalitis with symptoms similar to those of SLE. LAC is an endemic disease. That is it persists at low levels year after year in the same location. Columbus averages about one case per year. This disease is more virulent in young people, as such most of the diagnosed cases occur in children. Treatment is supportive; the majority of victims recover fully.

Treehole Mosquito - The treehole mosquito normally breeds in small containers of water within twenty feet of ground level in the shade in wooded locations. The natural container is a rot cavity formed in a tree or tree stump. Artificial containers, include tires, children's toys, and buckets, make excellent breeding sites. The breeding requirements include: a small body of water, leaf debris, and shade.

This mosquito normally is active only in dark wooded areas during the day. It is not a very aggressive feeder. Children are most likely to be bitten while playing or camping in woodland situations.

The female treehole mosquito may contract the La Crosse virus by biting an infected woodland mammal, by mating with an infected male treehole mosquito, or by being infected with the virus from her mother. The disease overwinters in infected mosquito eggs.

THINGS TO LOOK FOR: Any child who develops a viral encephalitis or meningitis during the summer or early fall months is suspect. The home and child's play areas should be checked for the conditions suitable for the treehole mosquito.

Mosquito Control

1. Use insect repellents carefully according to the label.
2. Clean up and remove water holding containers such as: tires, barrels, buckets, and cans.
3. Clean bird baths and rain gutters.
4. Repair and/or replace window and door screens.
5. Stay indoors, if possible, during periods of high mosquito activity.
6. During periods of high mosquito activity, apply a mosquito repellent or a residual insecticide around the outside of frequently used entrance doors.
7. Look for and kill all mosquitoes which enter your home, (They will normally be found on walls near the ceiling.), before going to bed.

Dog Heartworm

This is not a human disease, but dogs kept outdoors are at risk of contracting this mosquito carried disease.

Stop Mosquitoes From Breeding! Remove or Empty all water holding containers!

To make a complaint about mosquitoes call:

In Columbus or Worthington: 645-BITE (645-2483)

In Franklin County outside Columbus: 462-BITE

Tick Borne Diseases In Central Ohio

Rocky Mountain Fever - Rocky Mountain Spotted Fever (RMSF) is a febrile disease, which can be transmitted by the American Dog Tick. Any person, who has a documented tick bite and also develops symptoms, should seek medical attention. Symptoms include high fever, rash (beginning on the extremities), unproductive cough, severe headache, and muscular pains.

From 1981 through 1987 there were 23 human cases, including 2 deaths, from Rocky Mountain Spotted Fever in Columbus. Due to the successful RMSF eradication program, there have been no human cases in Columbus since 1991.

American Dog Tick - This is the common brown tick found in the spring and early summer in Ohio. It is an excellent transmitter of Rocky Mountain Spotted Fever. It does not transmit Lyme Disease. The female tick can lay up to 7000 eggs which hatch into tiny six legged larvae. These and the next stage, the nymph, feed upon wild mice. In the spring the adult ticks emerge and "quest" for large mammals by climbing up on vegetation to a height of one to three feet.

Tick Removal - Ticks should be removed as soon as they are discovered. To remove a tick, grab it as close to the skin as possible, preferably with tweezers. Pull the tick out without twisting or jerking. Wash the bite location with soap and water.

Lyme Disease - Lyme disease is caused by a spirochete, which is carried by the Black Legged Tick. It is the nymphal stage of this tick, which normally bites people. The nymphal stage is tiny, only the size of the head of a pin. As such Lyme victims are rarely aware of the tick from which they contracted Lyme. The vector for Lyme disease has not been found in Central Ohio. Lyme disease has been called the "great imitator," mimicking many other diseases. The distinctive bull's-eye rash does not appear in all cases.

Black Legged Tick (Formerly known as the Deer Tick) - Despite search efforts by the Ohio Department of Health, very few Black Legged Ticks have been found in Ohio and none in Columbus. No other arthropod in Central Ohio is known to transmit Lyme disease.

Physicians are required to report the abovementioned diseases to the appropriate health departments. This information is used in control efforts to prevent further cases.

by Dale L. Harmon, Columbus Health Department, 614-645-7156, June 6, 1997 (revised June 13, 2002)

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